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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,864	09/09/2003	David J. Houck	Houck 5-2-1-3 (LCNT/12569	2071

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EXAMINER	
WU, JIANYE	

ART UNIT	PAPER NUMBER
2462	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/657,864	HOUCK ET AL.	
	Examiner	Art Unit	
	JIANYE WU	2462	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 August 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

In view of the appeal brief filed on 8/31/09, PROSECUTION IS HEREBY REOPENED. New ground rejections are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:/Seema S. Rao/

Supervisory Patent Examiner, Art Unit 2462

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 1, 3-15** and **18-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliott et al (US 20040022237, hereinafter **Elliott**) in view of H. Schulzrinne et al. IETF RFC 3550 "RTP: A Transport Protocol for Real-Time Applications", July 2003 (hereinafter **RFC 3550**), further in view of Szabo (US 20020003779 A1).

For **claim 1** and **14**, Elliott discloses a method and an apparatus (soft switch 204 in FIG. 2 and 3, with circuit being the means for implementing logic in the soft switch) for determining whether to accept a new call to be routed from a first location (126 of FIG. 1 or 21B) to a second location (130 of FIG. 1 or 21B) via a network path (VoIP, [0453] and FIG. 1), comprising the steps of:

(a) obtaining, at the first location (126 of FIG. 1 or 21B), information relevant to the quality of service (packet loss, [1493], line 4 and Fig. 21B) of voice calls being transmitted from the first location to a second location (130 of FIG. 1 or 21B) via the network path (e.g., a path from Terminal 102 to Terminal 120 of FIG. 1);

(b) a parameter indicative of a congestion status of the network from the first location to the second location (suggested by "**Routing Congestion** Information", [0831]; or "many of the **congestion** and limited bandwidth problem would be solved", [0016]; or Packet Loss Threshold, Table 147 – continued, page 85, where packet loss is used as an indication of congestion: no loss, no congestion); and

Elliott is silent on calculating a parameter indicative of a congestion status in b) and c) accepting the new call into the IP network at the first location in the case of said parameter not exceeding an upper threshold.

In the same field of endeavor, RFC 3550 discloses calculating the packet loss threshold ("An example calculation is the packet loss ratio…", line 1-11 of the last paragraph of page 43), which is a parameter indicative of a congestion status. The motivation for combining Elliott with RFC is they are in the same field of endeavor or using known technique to known device to result in expected results.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Elliott with RFC 3550 by packet loss ratio as an indicative of a congestion status.

Elliott in view of RFC 3550 is silent on c) accepting the new call into the IP network at the first location in the case of said parameter not exceeding an upper threshold.

In the same field of endeavor, RFC 3550 discloses calculating the packet loss threshold ("An example calculation is the packet loss ratio…", line 1-11 of the last paragraph of page 43), which is a parameter indicative of a congestion status.

In the same field of endeavor, Szabo discloses accepting the new call into the IP network at the first location in the case of said parameter not exceeding an upper threshold ("at least one *performance indicator* value read from the RTCP mechanism does **not exceed** a pre-set **threshold** value, the **call is accepted**", [0028]). The

motivation for combining Elliott in view of RFC 3550 with Szabo is using a known technique to a known device to result in expected results.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Elliott in view of RFC 3550 with Szabo to use the threshold taught by RFC 3550 as the pre-set threshold for accepting a new call as disclosed by Szabo to ensure the new call will function properly.

As to **claim 3**, Elliott in view of RFC 3550 and Szabo discloses the method of claim 1, Szabo further discloses said new call is not accepted into the IP network in the case of said parameter exceeding the upper threshold ("one performance indicator value **exceeds** a pre-set **threshold value**, the IP telephony gateway **rejects** the **call** in a step 209", [0028]. The motivation of combination is the same.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to reject a new call in order to reduce the network congestion.

As to **claim 4**, Elliott in view of RFC 3550 and Szabo discloses the method of claim 1, RFC 3550 further discloses wherein the information obtained is a number of send packets to said second location via the network path (Line 1 of the paragraph for "Sequence number: 16 bits", Page 14, where lost packets are those with missing sequence number), wherein the number of sent packets comprises a number of lost packets, a number of late packets (Line 1 of the paragraph for "Sequence number: 16 bits", Page 14, where late packets inherently are packets that have been sent, but have not been received according to their sequence numbers) and a number of received

packets. The motivation of combination is the same as described in the parent claim above.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to get detailed information regarding network operation.

As to **claim 5**, Elliott in view of RFC 3550 and Szabo discloses the method of claim 1, Elliott further discloses wherein the information obtained is a delay (unacceptable latency, [1493], line 4) of received packets transmitted from said first location to said second location in the network path.

As to **claim 6**, Elliott in view of RFC 3550 and Szabo discloses the method of claim 1, RFC 3550 further discloses wherein the information obtained is a delay variation (variation in the delay, Line 5 of last paragraph in Page 44) of received packets transmitted from said first location to said second location via the network path.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to get detailed information regarding network operation. The motivation of combination is the same as described in the parent claim above.

As to **claim 7**, Elliott in view of RFC 3550 and Szabo discloses the method of claim 1, RFC 3550 further discloses wherein the information is obtained on a periodic basis (periodic transmission of control packets, first paragraph in Page 19). The motivation of combination is the same as described in the parent claim above.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to get detailed information regarding network operation.

As to **claim 8**, Elliott in view of RFC 3550 and Szabo discloses the method of claim 1, RFC 3550 further discloses wherein the information is obtained on an exception basis using an immediate report (Receiver report, first line of Section 6.4 in Page 35). The motivation of combination is the same as described in the parent claim above.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to get detailed information regarding network operation.

As to **claim 9**, Elliott in view of RFC 3550 and Szabo discloses the method of claim 1, RFC 3550 further discloses wherein the parameter include packet lost ratio (packet lost ratio, Line 1 of 3rd paragraph of Section 6.4.4, Page 43). The motivation of combination is the same as described in the parent claim above.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to get detailed information regarding network operation.

As to **claim 10** and **19**, Elliott in view of RFC 3550 and Szabo discloses 1 and 14, but are silent on wherein PLR is defined as

$$PLR = \frac{(\text{lost packets} + \text{late packets})}{(\text{received packets} + \text{lost packets} + \text{late packets})}.$$

However, by definition, PLR is the *ratio* of the number of *packets NOT received* to number of the *total packets sent* for a given period of time (such as disclosed by "The *ratio of these two* is the packet loss fraction over the interval" in last paragraph of page 43 in RFC 3550); The PLR formula above is simply a math expression of the definition; note that the number of packets that are NOT received equal to the *sum* of the number

of lost packets and the number of last packets (*last packets* are the packets that are not received during the time interval but may be received at a later time). The motivation of combination is the same as described in the parent claim above.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to calculate PLR using formula shown above for gaining a better understanding of network performance status.

As to **claim 11**, Elliott in view of RFC 3550 and Szabo discloses the method of claim 2, Elliott further discloses using different encoders (CODECs, such as ones supporting G.711, G. 726, and G.728 in [1004]) to handle different connections with different bandwidth ([1004]); which include the case of using 2 different encoders to handle 2 different kinds of calls that have different bandwidth.

As to **claim 12**, Elliott in view of RFC 3550 and Szabo discloses the method of claim 2, but are **silent on** wherein the bandwidth of a newly accepted call is reduced by increasing the packet size for said newly accepted voice call.

However, for a given amount of data, increasing the packet size will decrease the overhead caused by packet header therefore reduce the required bandwidth for the call, (this is demonstrated by efficiency factor e=(packet_size)/(packet_size+header_size); for a fixed header size, the larger is the packet_size, the larger is e);

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to increase the packet size so as to decrease the required bandwidth for the call for the benefit of saving bandwidth resource.

As to **claim 13**, Elliott in view of RFC 3550 and Szabo discloses the method of claim 2, Elliott disclose further discloses wherein the bandwidth of a newly accepted call is reduced by activating the characteristic of silence suppression for said newly accepted voice call (silence suppression activation timer, table 147 in Page 85).

As to **claim 15**, Elliott in view of RFC 3550 and Szabo discloses claim 14 wherein said first circuit further comprises one or more Ethernet cards (Ethernet switch 332/334 of FIG. 3 [0568]) that are connected to the Internet protocol network.

As to **claim 18**, Elliott in view of RFC 3550 and Szabo discloses claim 14 wherein the third circuit (CPU of Soft Switch 204, FIG. 2B) determining whether the new voice call is to be accepted into the internet protocol network via the first circuit, by comparing said parameter to a plurality of thresholds (Packet Loss Threshold, Table 147 – continued, page 85, where packet loss values can be used as the thresholds for determining if the new voice call is to be accepted or not).

As to **claim 20**, Elliott in view of RFC 3550 and Szabo discloses claim 19 wherein the traffic processing (including new call setup) depends on QoS parameters, including packet loss performance ([1081]);

Elliott does not explicitly disclose the new call is accepted if PLR is below a given threshold;

however, PLR is just one commonly used QoS parameter;

therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to a new call is accepted if PLR that is (calculated by the third

circuit, CPU) is below a given threshold for the benefit of providing reliable network service for users.

As to **claim 21**, Elliott in view of RFC 3550 and Szabo discloses of claim 19 wherein the third circuit compares the packet loss ratio;

Elliott does not explicitly disclose the new call is accepted using a reduced bandwidth if PRL is between given low threshold and the upper threshold;

however, PRL is commonly used QoS parameter ([1081]); and Elliott also teaches providing different network services depend on QoS parameters, such as delay and packet loss information ([1088]);

therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to a new call is accepted using a reduced bandwidth if PRL that is (calculated by the third circuit, CPU) is between given low threshold and the upper threshold for the benefit of providing reliable network service for users.

As to **claim 22**, Elliott in view of RFC 3550 and Szabo discloses 19 wherein the third circuit compares the packet loss ratio;

Elliott does not explicitly disclose the new voice call is accepted if PLR is below a given threshold;

however, PLR is commonly used as a QoS parameter ([1081]);

therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to a new call is blocked if PLR that is (calculated by the third circuit, CPU) is above the upper threshold for the benefit of protecting normal network operation.

3. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Elliott in view of RFC 3550 and Szabo, further in view of Watt (US Patent number 5781532, hereinafter Watt).

As to **claim 2**, Elliott in view of RFC 3550 and Szabo discloses the method of claim 1, but are silent on wherein new call may be accepted at a reduced bandwidth in the case of said parameter exceeding a lower threshold.

In the same field of endeavor, Watt discloses adjusting transmission rate in response to a "mild" congestion state, as indicated by the value packet loss ratio exceeding a lower threshold but below an upper threshold, "*adjusting* the transmission *rate* in response to the detection of said congestion … when the detected congestion exceeds a predetermined *mild congestion threshold*", from line 21 of col. 7 to line 3 of col. 8).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to accept a new call at a reduced bandwidth in order to fully take advantage of network resource.

4. **Claims 16-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliott in view of RFC 3550 and Szabo, further in view of Hooper et al (US 20040252686 A1) (hereinafter **Hooper**).

As to **claim 16**, Elliott in view of RFC 3550 and Szabo discloses the apparatus of claim 14, but are silent on said second circuit is at least one strongarm card.

However, the second circuit is simply a CPU card (such as CPU card of Soft Switch 204, FIG. 2B) that implement the logic of receiving QoS information associated

with voice calls, and strongarm is a popular CPU that is commonly used in the CPU cards as disclosed by Hooper ("the core processor implemented as a Strong Arm architecture", [0010]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use strongarm CPU card as the circuit disclosed by Elliott.

As to **claim 17**, Elliott in view of RFC 3550, Szabo and Hooper discloses the apparatus of claim 16, Elliott further discloses the CPU card (with strongarm CPU) is connected to the Ethernet card via a host CPU circuit (CPU card of Soft Switch 204 is connected to Ethernet switches 332, [0568], line 1-5 and FIG. 2B).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianye Wu whose telephone number is (571)270-1665. The examiner can normally be reached on Monday to Thursday, 8am to 7pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571)272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jianye Wu/
Examiner, Art Unit 2462

/Seema S. Rao/
Supervisory Patent Examiner, Art Unit 2462